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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,590	08/15/2001	Glenn C. Sasaki	AUOBIO.009C1	1652

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EXAMINER

LUDLOW, JAN M

ART UNIT	PAPER NUMBER
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1743

MAIL DATE	DELIVERY MODE
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08/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/930,590	Applicant(s) SASAKI, GLENN C.	
	Examiner Jan M. Ludlow	Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/15/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 2, 29, 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Majewski.

Majewski teaches two spaced piezoelectric actuators 20a, 20b surrounding unrestricted tube 14 and coupled to a driver for sequential actuation (Figure 2). With respect to claim 2, Figure 5 shows that actuation of the actuators distal from the orifice

can be performed first (i.e., activation A is farther from the orifice than activation B).

The capillary may be made of quartz (col. 6, line 50). The taper is shown in Figure 3.

5. Claims 30, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majewski as applied to claims above.

6. Majewski fails to teach the distance.

7. It would have been obvious to size the device of Majewski in order to dispense desired volumes and to provide actuators distal from the orifice as shown in Figure 6, resulting in a spacing of 10mm or more from the orifice of a large scale dispenser.

8. Claims 1-3, 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Majewski as applied to claims above, and further in view of WO 97/48557 (WO) and/or Iwasaki et al.

Majewski fails to teach substantially simultaneous firing.

Iwasaki teaches a cylindrical chamber with ring actuators 1, 2 (Figure 4, bridge cols. 3-4) as an alternative structure to replace the structure of Figure 2 in the system of Fig. 5 operated in accordance with Figures 3 and 8 by drivers shown in Figs 6-7. Firing of actuators 1 and 2 can be in phase (simultaneous) or out of phase (sequential) as shown in Figure 3..

WO teaches a chamber 120, 108, 118, first actuator 118 and second actuator 120, 122. The actuators can be fired simultaneously, or the second actuator can be fired first (p. 12, lines 12-14 and 26-28, Figure 8). An additional embodiment is shown in Figure 10. Means for simultaneous firing may be provided (p. 5, lines 19-20).

It would have been obvious to provide substantially simultaneous firing in the device of Majewski in order to provide a simultaneous wave as an alternative to a sequential wave as taught by WO and/or Iwasaki.

9. Applicant's arguments filed May 14, 2007 have been fully considered but they are not persuasive.

10. Applicant argues that claim 29 and its dependent claims are allowable because Majewski does not teach a quartz capillary, but Majewski does teach that the capillary may be made of quartz and an elastic binder. The instant claims do not require any particular rigidity, or preclude the elastic binder from the composition of the capillary.

11. With respect to claim 1, applicant has not argued the combination of references applied, even though they were applied against claim 4, which had the scope of new claim 1.

12. With respect to claim 3, applicant argues that the nozzle cannot fit in a sample well because of orifice plate 10, but the nozzle is structurally capable of fitting in a sample well having a diameter larger than the orifice plate.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jan M. Ludlow whose telephone number is (571) 272-1260. The examiner can normally be reached on Monday-Thursday, 11:30 am - 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read 'Jan M. Ludlow', written in a cursive style.

Jan M. Ludlow
Primary Examiner
Art Unit 1743

Jml
August 6, 2007